

Figure 1

102 Specify the vehicle geometry
104 Map the prohibited subzones
106 Map the routing points and connectors, particularly between zones
108 Map the electrical and electronic components
110 Synthesis of the routing of signals
112 Synthesis of the routing of power
114 Synthesis of the routing of ground links
116 Cost evaluation
118 Quality evaluation
120 Weight evaluation

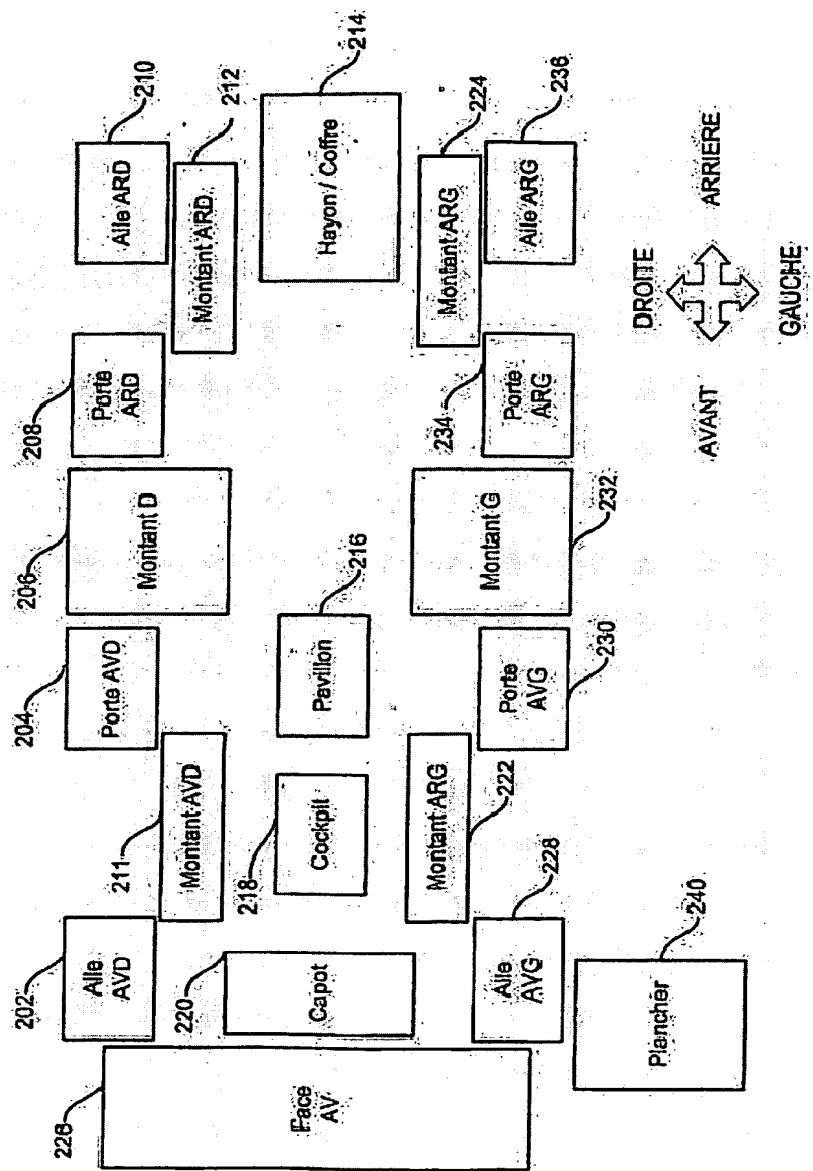


Figure 2

226	Front face	220	Hood
202	Right front fender	218	Cockpit
204	Right front door	216	Roof
206	Right column	214	Tailgate / Trunk
208	Right rear door	222	Left rear column
210	Right rear fender	224	Left rear column
211	Right front column	228	Left front fender
212	Right rear column	230	Left front door
		232	Left column
		234	Left rear door
		236	Left rear fender
		240	Floorboard
		DROITE	RIGHT
		AVANT	FRONT
		ARRIERE	REAR
		GAUCHE	LEFT

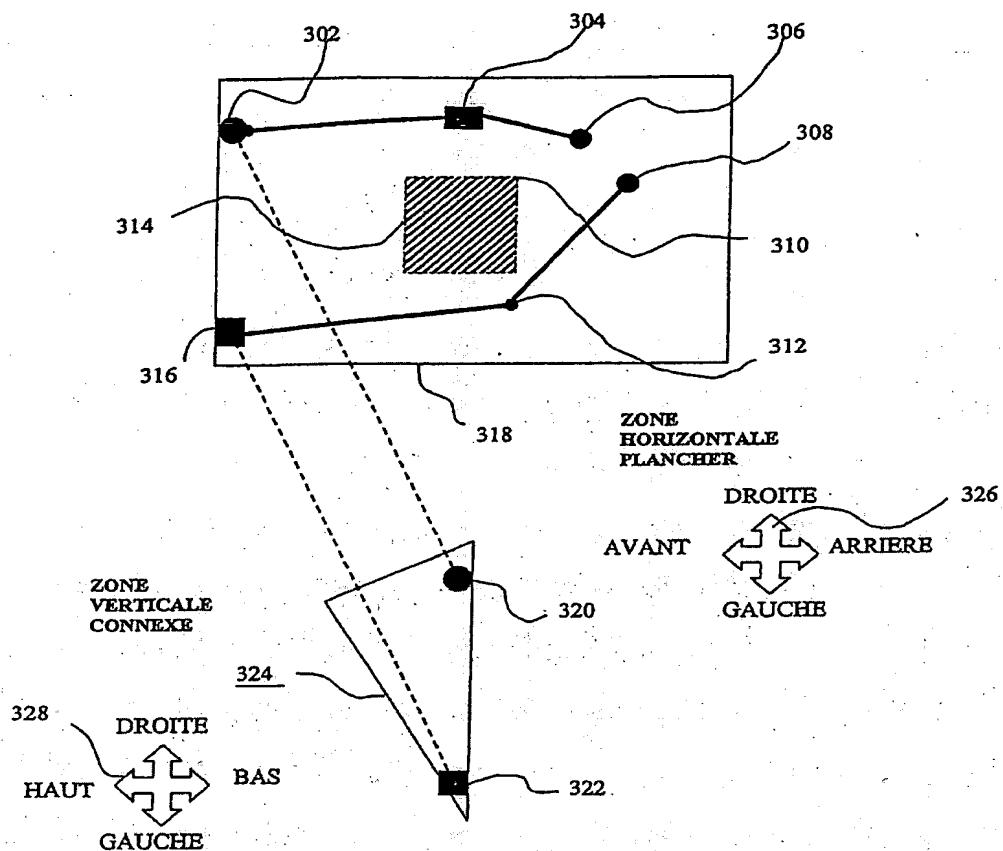


Figure 3

**CONTIGUOUS
VERTICAL
ZONE**

DROITE	RIGHT
HAUT	TOP
GAUCHE	LEFT
BAS	BOTTOM

**FLOORBOARD
HORIZONTAL
ZONE**

DROITE	RIGHT
AVANT	FRONT
GAUCHE	LEFT
ARRIERE	BACK

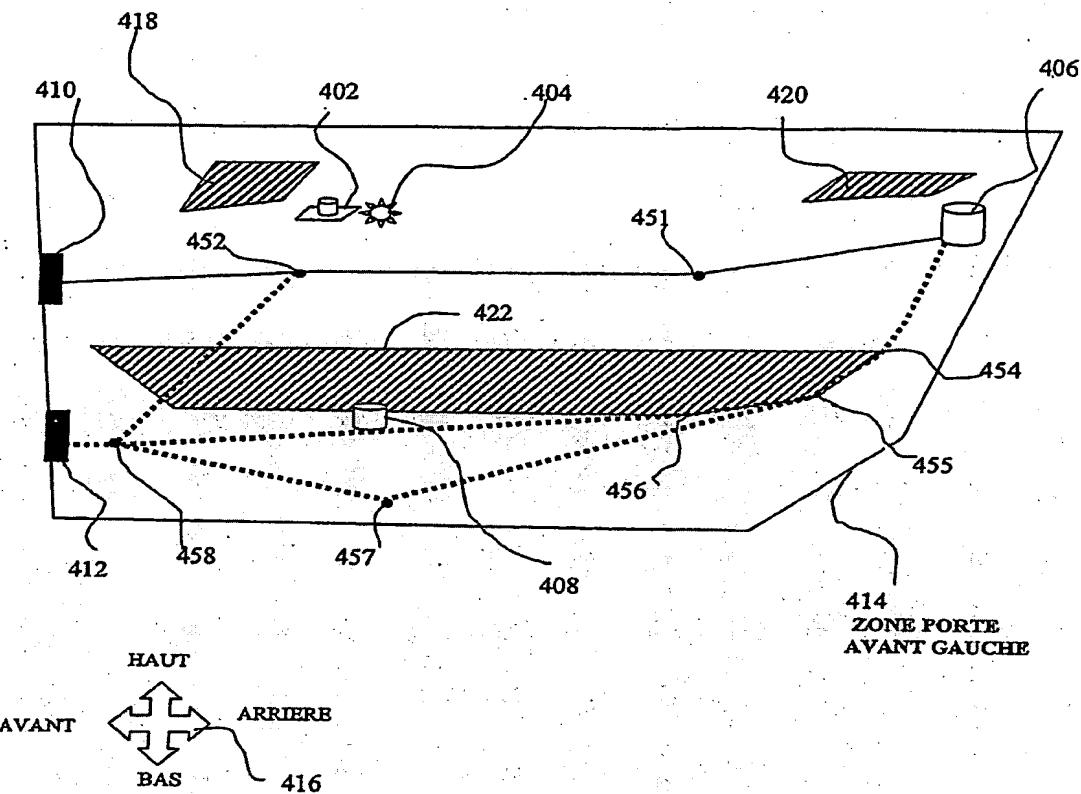


Figure 4

**LEFT FRONT
DOOR ZONE**

HAUT	TOP
AVANT	FRONT
BAS	BOTTOM
ARRIÈRE	REAR

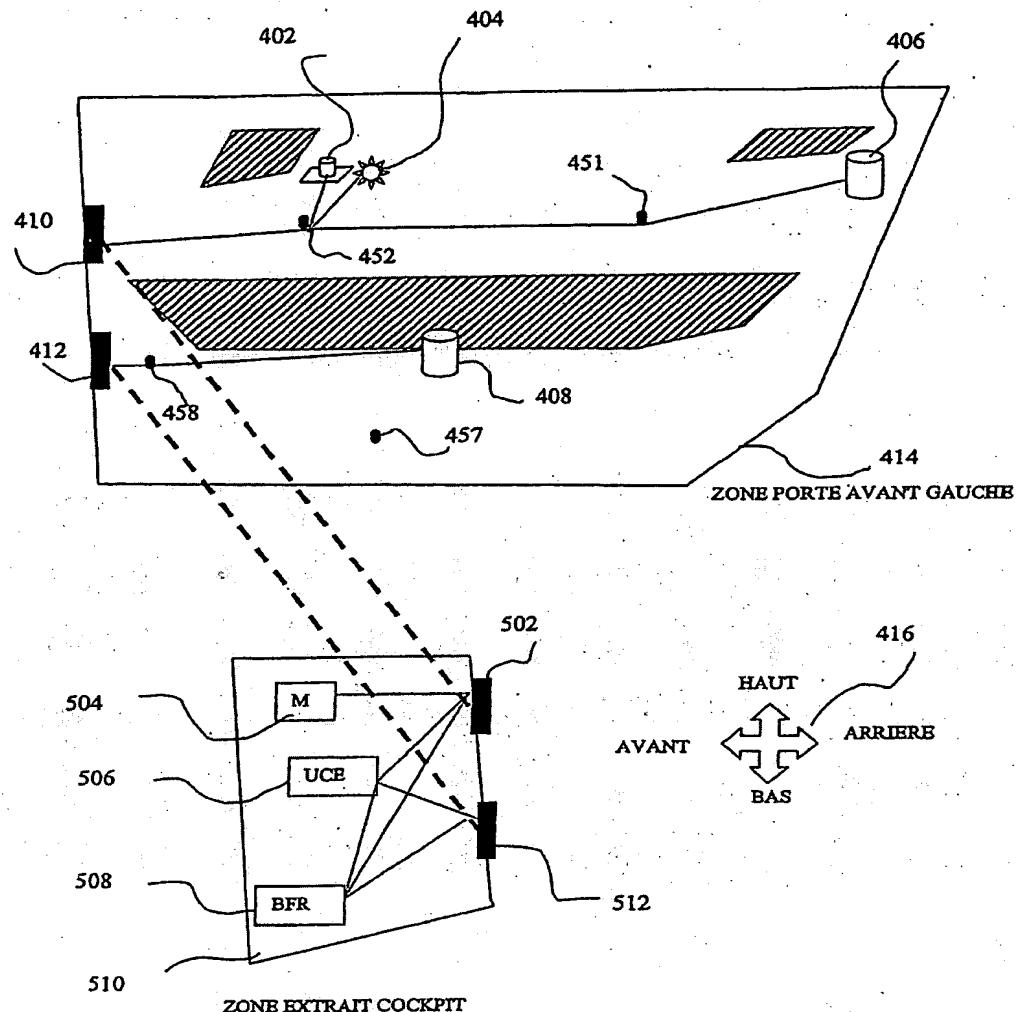


Figure 5

LEFT FRONT DOOR ZONE

504 Ground
 506 Electronic control unit
 510 Fuse and relay box

HAUT
 AVANT
 BAS
 ARRIERE

TOP
 FRONT
 BOTTOM
 REAR

COCKPIT EXTRACT ZONE

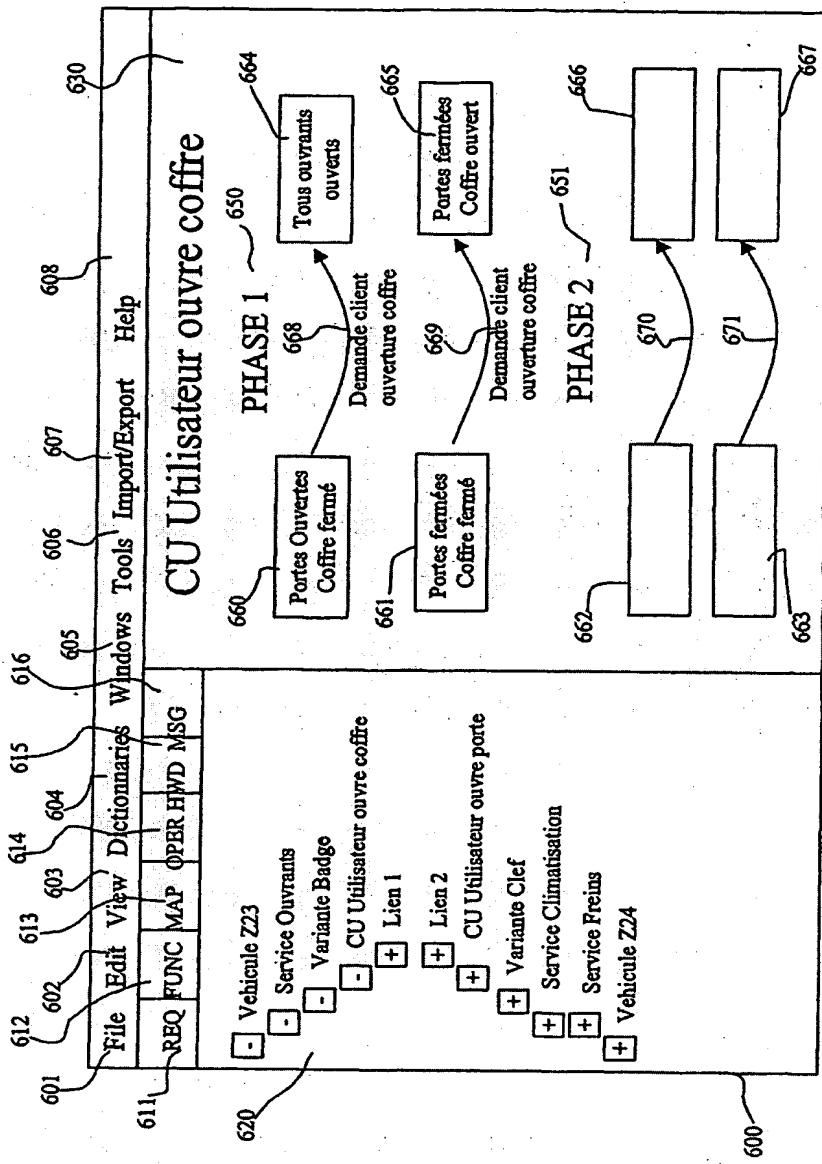
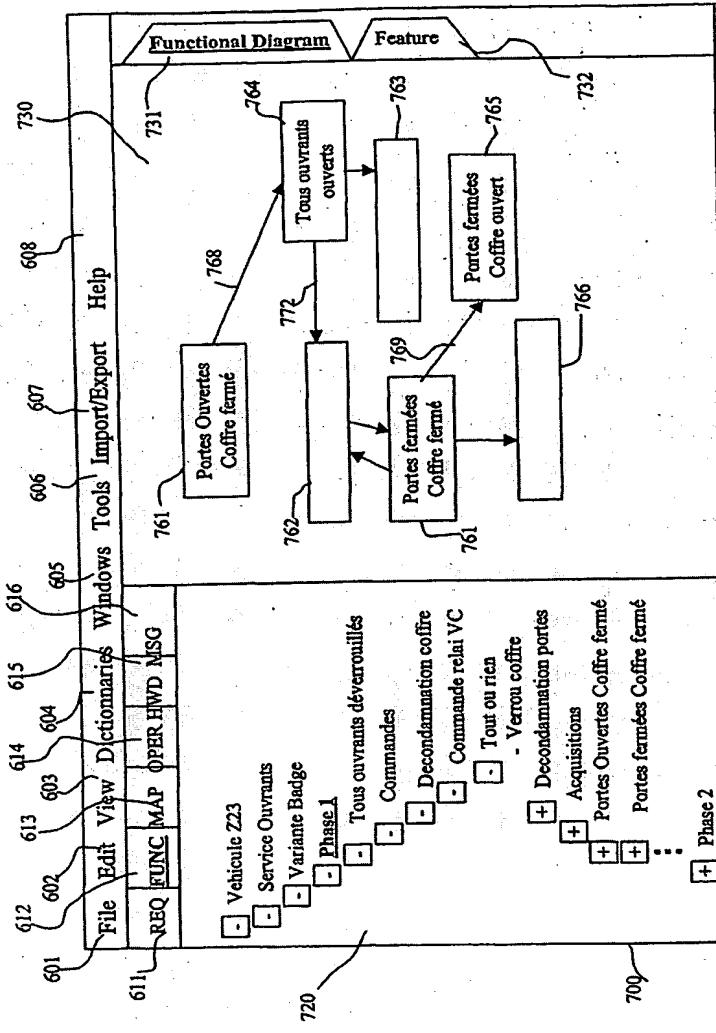


Figure 6
Use case: user opens trunk

- Vehicle Z23
- Openings service
- Badge variant
- Use case: user opens trunk
- Link 1
- Link 2
- Use case: user opens door
- Key variant
- Air-conditioning service
- Brake service
- Vehicle Z24

66660	Doors open, trunk closed
66668	Client request to open trunk
66684	All openings open
66681	Doors closed, trunk closed
66691	Client request to open trunk
66695	Doors closed, trunk open



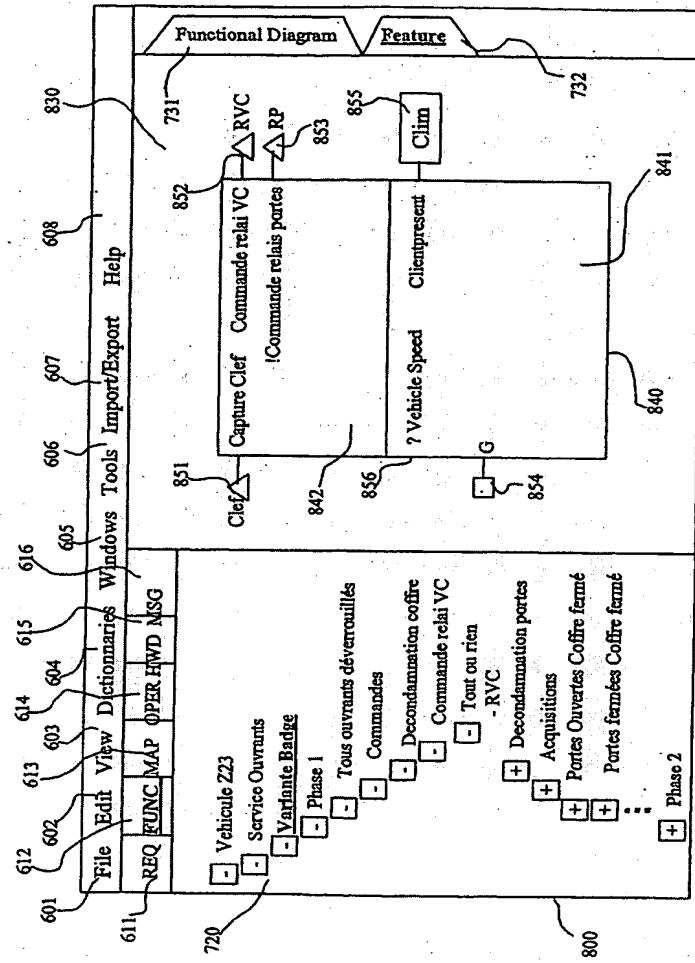


Figure 8

Vehicle Z23	851	Key
Openings service	852	Trunk-lock relay
<u>Badge variant</u>	853	Door relay
Phase 1	855	Air conditioning
All openings unlocked	Capture ... = Key sensing	Commande ... = Trunk-lock relay instruction
Instructions		Door relay instruction
Unlatch trunk		
		Trunk-lock relay instruction
	All-or-nothing	
	- Trunk-lock relay	
	Unlatch doors	
	Acquisitions	
	Doors open, trunk closed	
	Doors closed, trunk closed	
Phase 2		

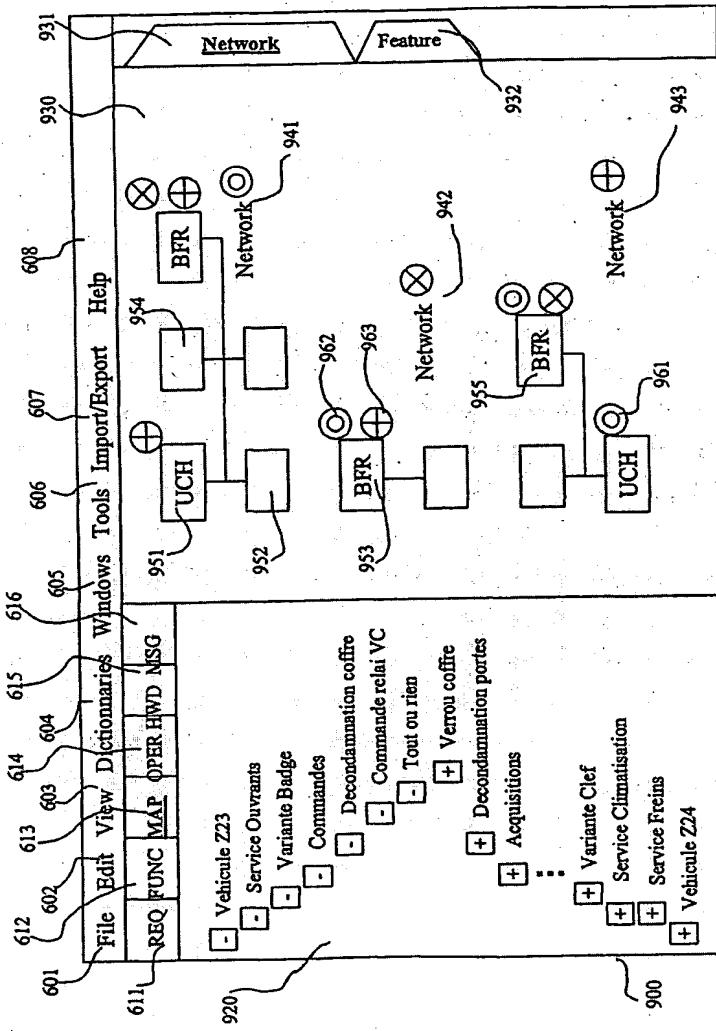


Figure 9

Vehicle Z23	Openings service	Unlatch trunk	Unlatch door
Badge variant		Trunk-lock	
Instructions		All-or-none	
		Trunk	
			Acquisition
			Key variant
			Air-conditioning
			Brake service
			Vehicle Z24

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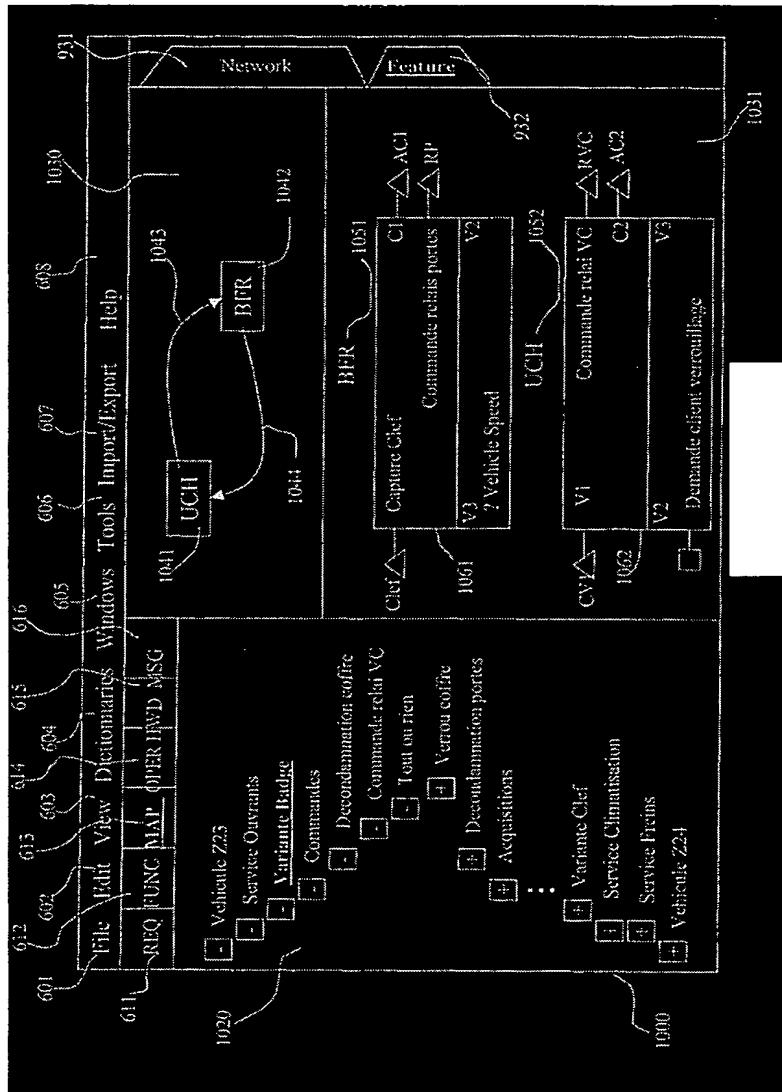


Figure 10

Vehicle Z23
Openings service
Badge variant
Instructions
Unlatch trunk
Trunk-lock relay instruction
All-or-nothing
Trunk lock
Unlatch doors
Acquisitions
Key variant
Air-conditioning service
Brake service
Vehicle Z24

UCH Passenger-compartment control unit
BFR Fuse and relay box
Clef Key
Capture ... = Key sensing
Commande ... = Door relay instruction
RP Door relay
Commande ... = Trunk-lock relay instruction
RVC Trunk-lock relay
Demande ... Client request to lock

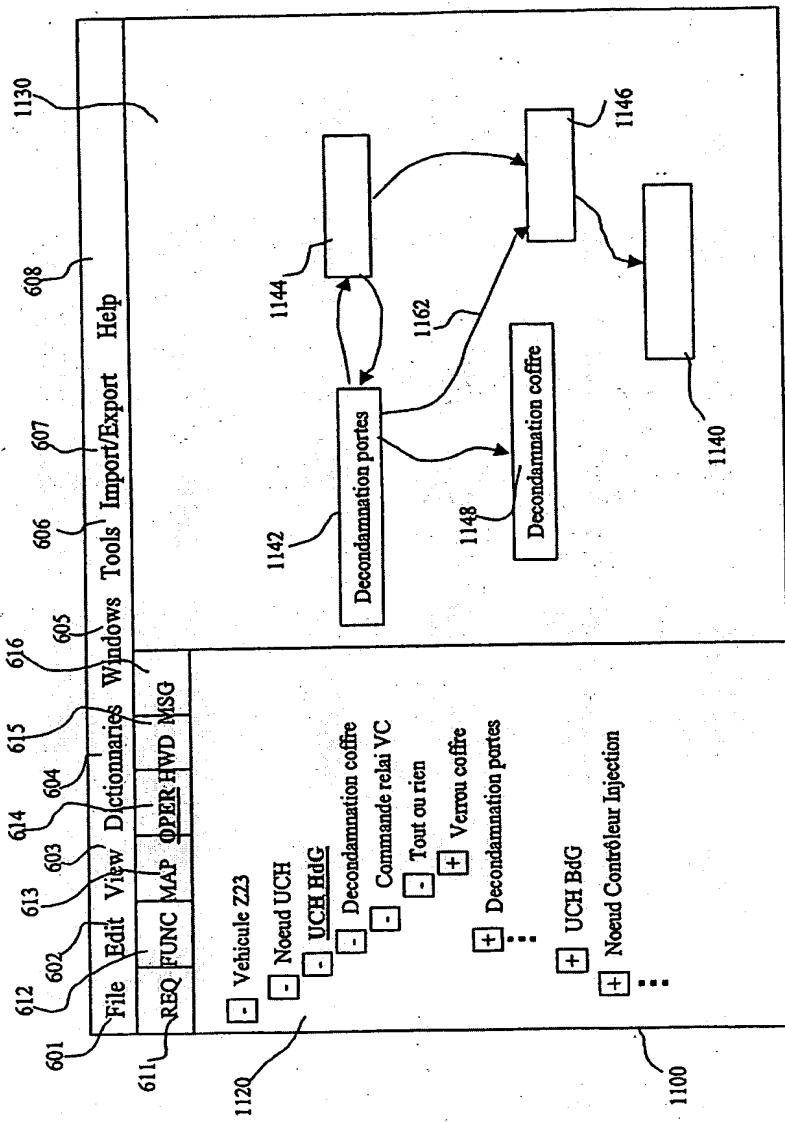


Figure 11

Vehicle Z23
Passenger-compartment control-unit node
Passenger-compartment control-unit HdG
 Unlatch trunk
 Trunk-lock relay instruction
 All-or-nothing
 Trunk lock
 Unlatch doors
Passenger-compartment control-unit BdG
 Injection controller node

1142 Unlatch doors
 1148 Unlatch trunk

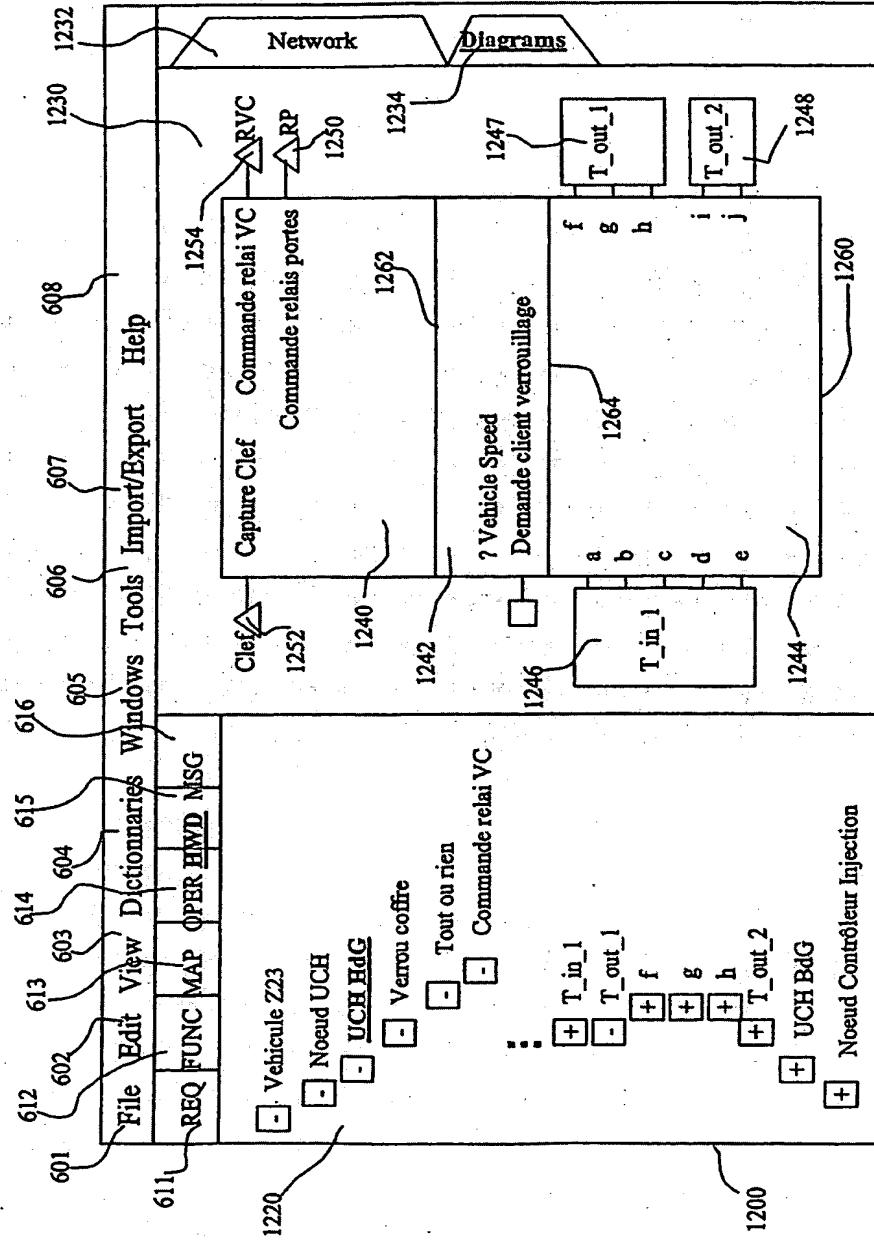


Figure 12

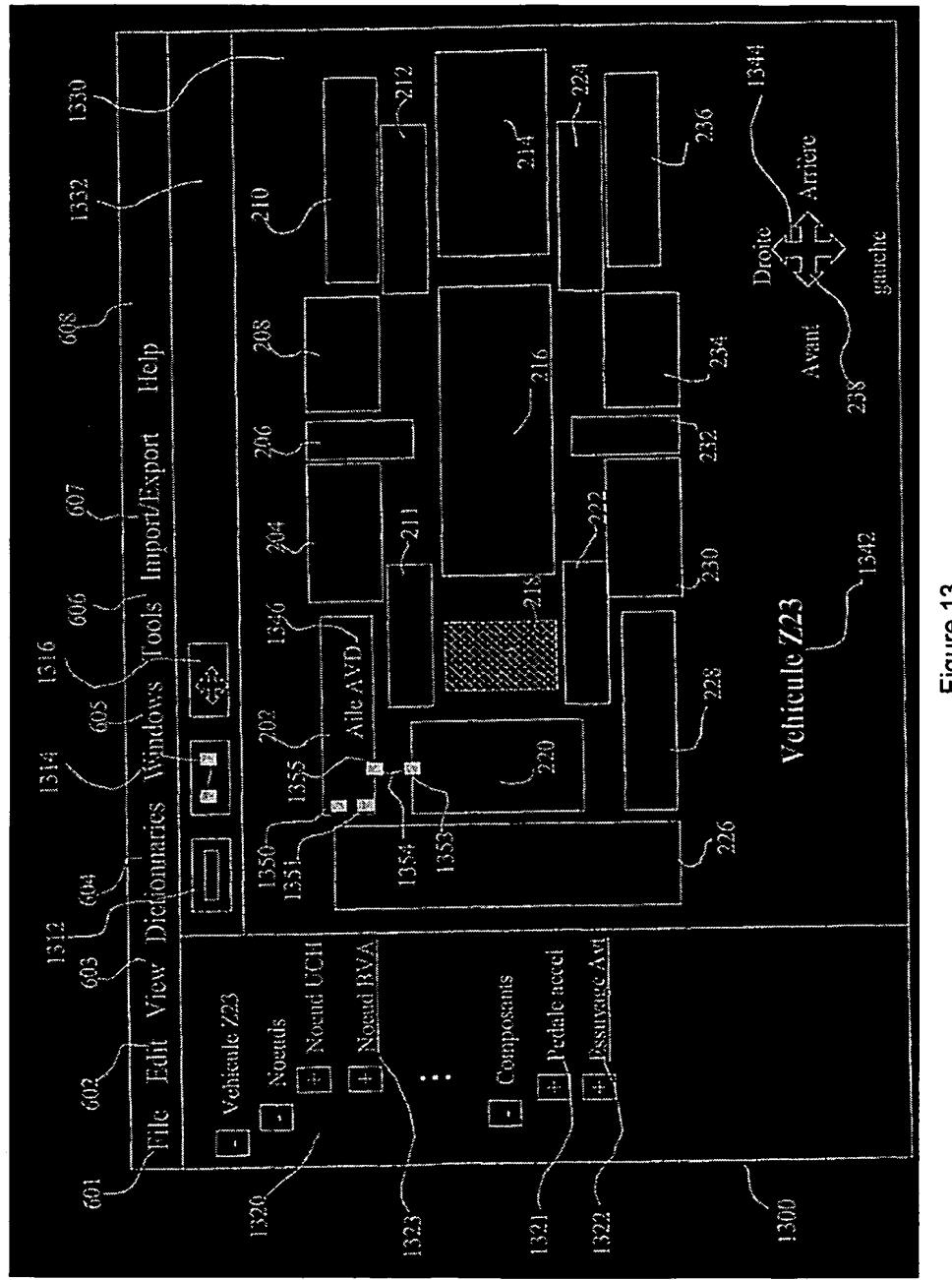


Figure 13

Vehicle 223
Nodes Passenger
BVA node

Passenger-compartment control-unit node
BV/A node

Vehicle Z23	Front	Right	Left	Rear
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Components
Accelerator pedal
Front wipers

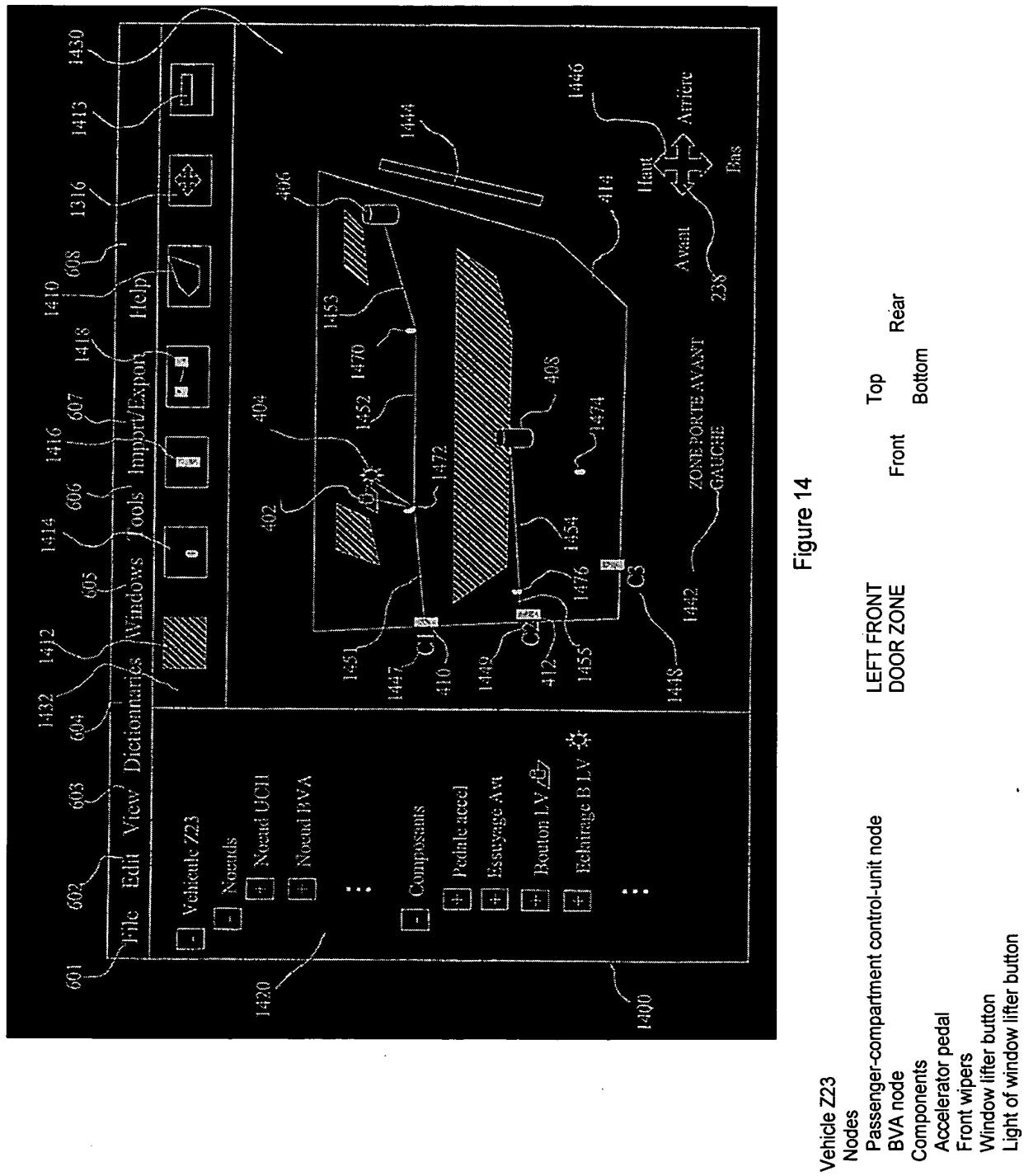


Figure 14

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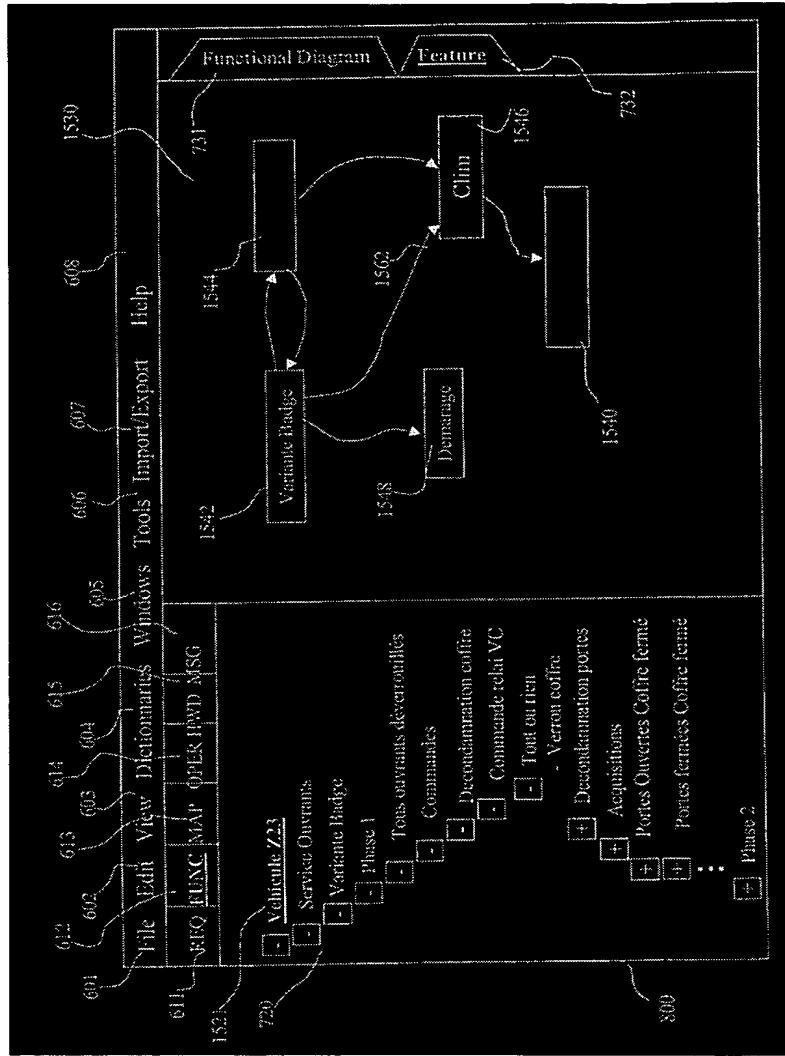


Figure 15

Vehicle Z23	Openings service
	Badge variant
	Phase 1
	All openings
	Instructions
	Unlatch trunk
	Trunk-loc
	All-or-none
	- Trunk
	Unlatch door
	Acquisition
	Doors open,
	Doors closed
	Phase 2

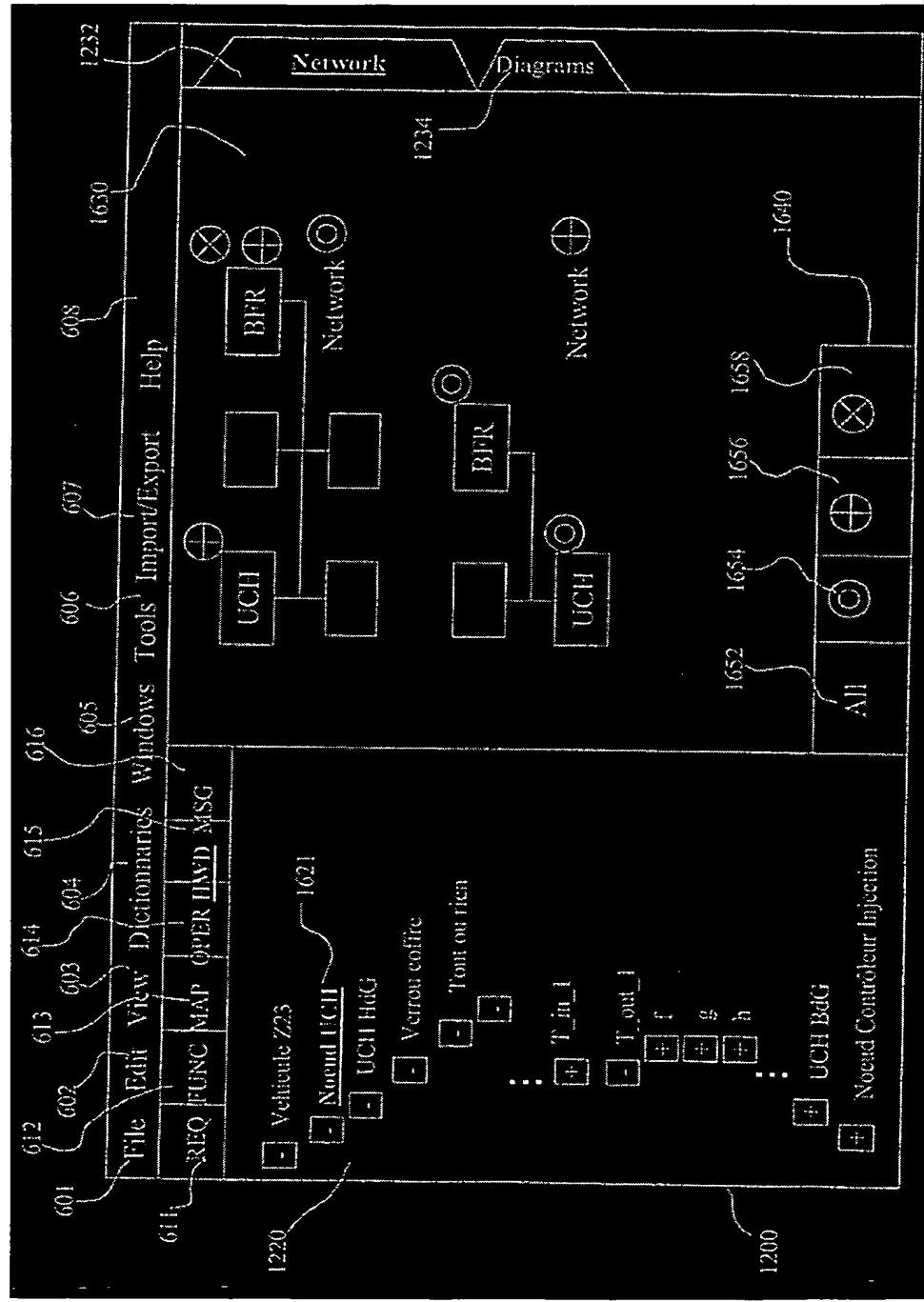


Figure 16

Vehicle Z23
Passenger-compartment control-unit node
 Passenger-compartment control-unit HdG
 Trunk lock
 All-or-nothing
 Passenger-compartment control-unit BdG
 Injection controller node

UCH
 BFR
 Passenger-compartment control-unit HdG
 Fuse and relay box

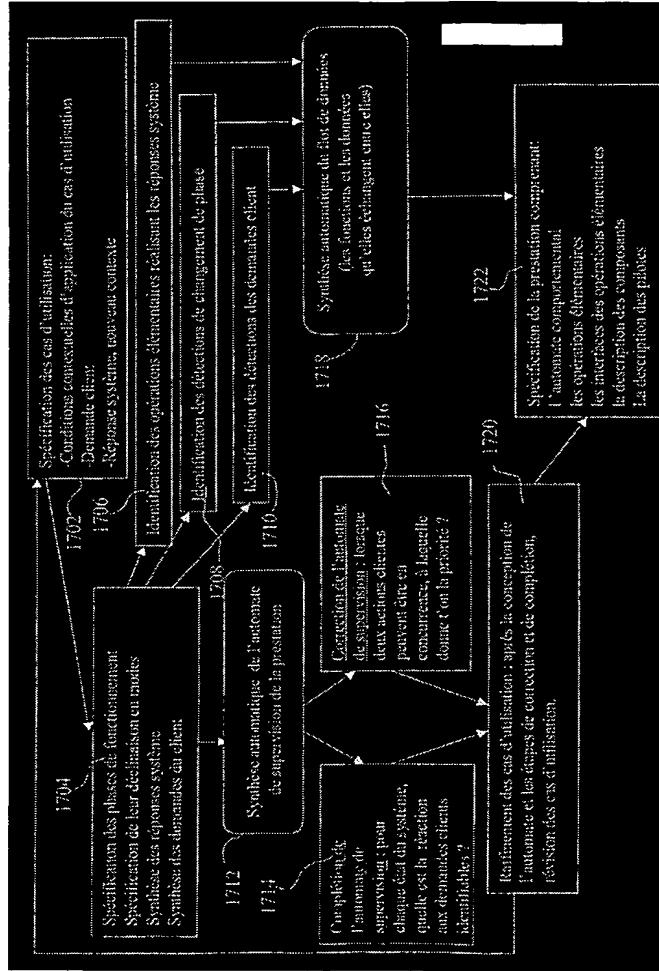


Figure 17

1702	Specification of use cases: - Contextual conditions of application of the use case - Client request - System response, new context Specification of operating phases Specification of their declinations in mode Synthesis of system responses Synthesis of client requests Identification of elementary operations for executing the system responses Identification of detections of phase change	1716	Correction of the supervising automaton: when two client actions may be competing, which is given priority?
1704		1718	Automatic synthesis of the data flow (the functions and the data that they exchange with one other)
1706		1720	Refinement of use cases: after design of the automaton and the steps of correction and supplementation, revision of use cases.
1708		1722	Specification of the service comprising: the behavior automaton the elementary operations the interfaces of the elementary operations the description of the components the description of the drivers
1710	Identification of detections of client requests		
1712	Automatic synthesis of the automaton for supervision of the service Supplementation of the supervising automaton: for each system state, what is the reaction to identifiable client requests?		
1714			

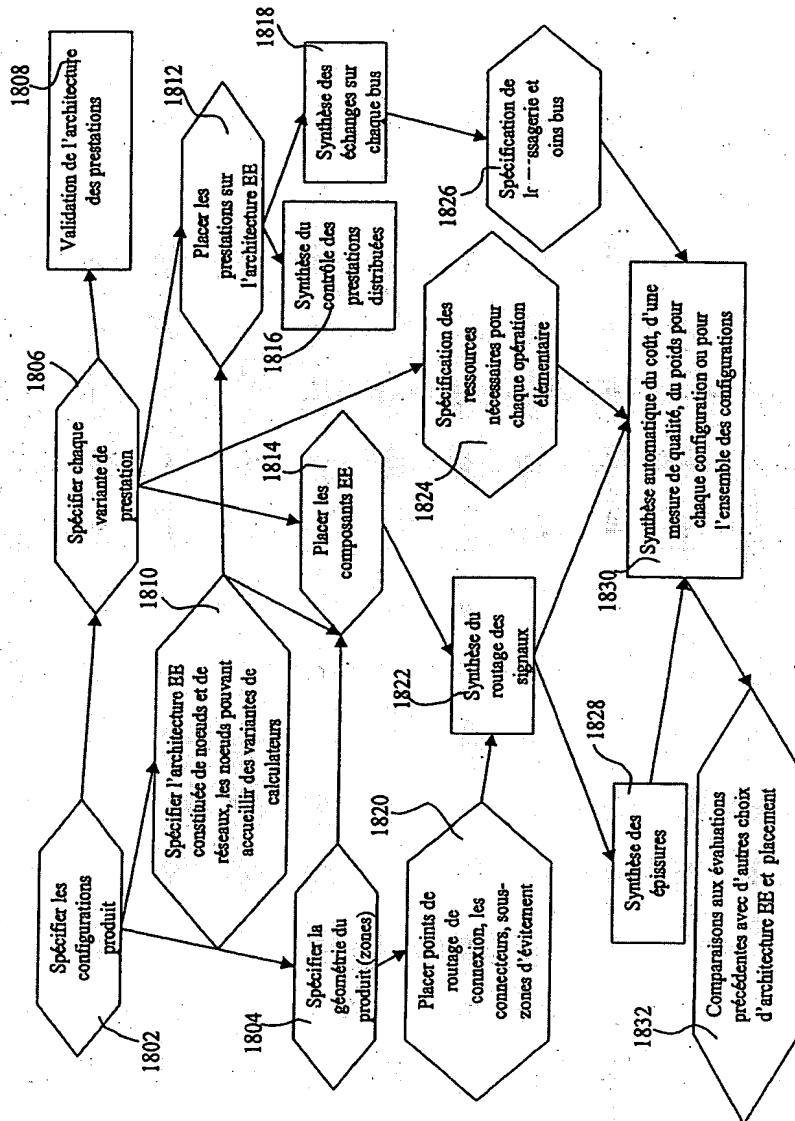


Figure 18 1816 Synthesis of control of distributed services

Figure 15	1802	Specify the product configurations	1816	Synthesis of control of distributed services
	1804	Specify the product geometry (zones)	1822	Synthesis of routing of signals
	1806	Specify each service variant	1824	Specification of resources necessary for each elementary operation
	1808	Validation of the service architecture	1826	Specification of the electronic messaging service and bus needs
	1810	Specify the electrical and electronic architecture composed of nodes and networks, the nodes being able to receive calculator variants	1828	Synthesis of splices
	1812	Map the services onto the electrical and electronic architecture	1830	Automatic synthesis of the cost, of a measure of quality, and of the weight for each configuration or for the set of configurations
	1814	Map the electrical and electronic components	1832	Comparisons with the preceding evaluations using other choices of electrical and electronic architecture and mapping